"**Farmer Market vs Fast Food: Discrete Choice Analysis of Dietary Choice**"

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Abstract:

With obesity rates continually rising in the U.S. from 1999 to 2018 (CDC, 2020), policymakers have taken a keen interest in increasing healthy food access to American households. However, what is perhaps not so specific is how policymakers can best alter a household's dietary habits for the better. This paper helps bridge this gap in information by using the National Household Food Acquisition and Purchase Survey (FoodAPS) to analyze which household characteristics and environmental factors influence a household's choice to eat healthy or unhealthy using a multinomial logit model. In particular, we allow for household income, access to food stamps, and local retail food environments to play a key role in explaining household food choice patterns.

Motivation:

Obesity has been a serious issue is the U.S., and there are increasing number of people who are obese. The prevalence of obesity in 2017-2018 reached 42.4%, while the figure in 1999-2000 was only 30.5%. Moreover, the prevalence of severe obesity was 9.2%, which nearly doubled from 1999-2000 (Hales, Carroll, Fryar, and Ogden, 2020). The U.S. government has been fighting hard against obesity. Healthy eating and nutrition information was one of the main objectives for former first lady Michele Obama's campaign against childhood obesity. However, it is not clear for policymakers how to change individual's dietary habits more efficiently. This paper is going to investigate how household's characteristics and environmental factors affect households' choice on healthy food. The results can provide insight for policymakers on how to persuade people into a healthy diet more efficiently.

Literature Review:

While somewhat sparse, the economic study of household dietary choices has produced exciting results. In their research about food access for low-income households, Taylor and Villas-Boas (2016) find that low-income households have a greater willingness to pay for travel expenses to access superstores and fast-food restaurants rather than healthier stores such as

farmer markets. Studying how to promote healthy eating better, Stefan Hut (2020) discovers that social interactions and community influence could be the primary driver of a household's dietary choice. Looking at the demographics of food choice, Vaughan et al. (2017) find that sociodemographic characteristics (such as age, gender, and education) of predominantly African Americans in a low-income neighborhood greatly influenced their diet. All of these literary sources and their findings should be considered when determining which factors are important determinants of whether a household eats healthy or not.

Research Design:

Using the FoodAPS dataset, this project plans to estimate the determinants of healthy dietary habits in the household. To address this objective, the first step will be to compute statistics to look for variation of dietary habits given household-level characteristics (income, family size, presence of children, participation in food assistance programs, etc.) and head of the household characteristics (race, age, gender, education, etc.) and other variables such as distance between the residence and primary food store. Afterwards, we will proceed with the estimation of multinomial econometric models to select which variables affect dietary habits and to what extent by hypothesis testing and computing marginal effects.

The dependent variable for our estimation is a categorical variable representing a self-assessment of how healthy the households' overall diet is, ranging from poor to excellent. Given this and the fact that our candidate independent variables are invariant among those categories, our estimation strategy consists of a multinomial logit model.

Outline:

- Week 0 (Mar/22- Mar/26): Meeting with the professor and initial discussions
- Weeks 1 & 2 (Mar/29- Apr/09): literature review, data cleaning and data analysis
- Weeks 3 & 4 (Apr/12- Apr/23): estimation of econometric models and initial draft
- Week 5 (Apr/26- Apr/30): revisions to the draft and final write-up

References

Taylor, R., & Villas-Boas, S. B. (2016). Food Store Choices of Poor Households: A Discrete Choice Analysis of the National Household Food Acquisition and Purchase Survey (FoodAPS). *American Journal of Agricultural Economics*, *98*(2), 513–532. https://doi.org/10.1093/ajae/aaw009

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